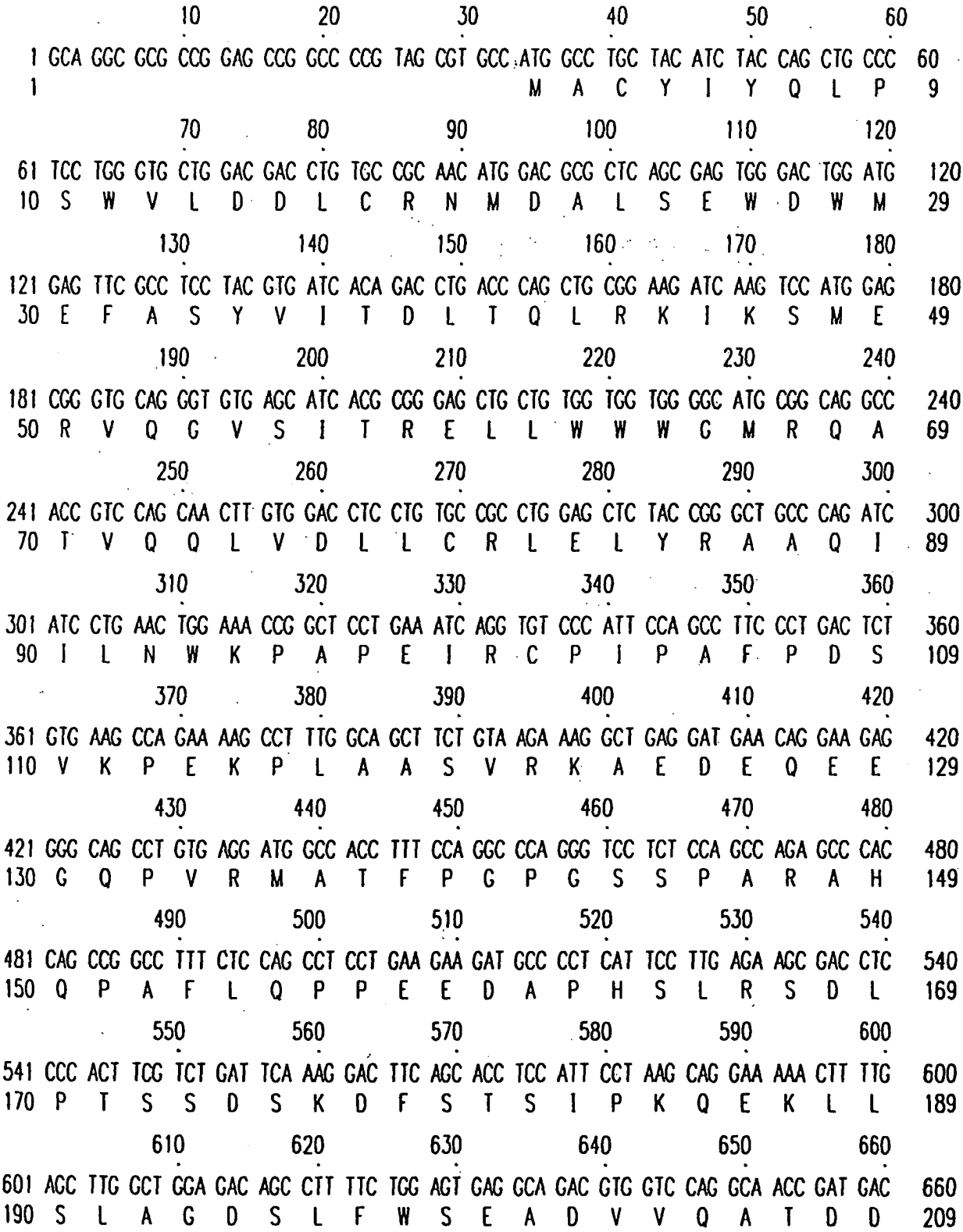
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1 GCA GGC GCG CCG GAG CCG GCC CCG TAG CGT GCC ATG GCC TGC TAC ATC TAC CAG CTG CCC 60
1 M A C Y I Y Q L P 9
70 80 90 100 110 120
61 TCC TGG GTG CTG GAC GAC CTG TGC CGC AAC ATG GAC GCG CTC AGC GAG TGG GAC TGG ATG 120
10 S W V L D D L C R N M D A L S E W D W M 29
130 140 150 160 170 180
121 GAG TTC GCC TCC TAC GTG ATC ACA GAC CTG ACC CAG CTG CGG AAG ATC AAG TCC ATG GAG 180
30 E F A S Y V I T D L T Q L R K I K S M E 49
190 200 210 220 230 240
181 CGG GTG CAG GGT GTG AGC ATC ACG CGG GAG CTG CTG TGG TGG TGG GGC ATG CGG CAG GCC 240
50 R V Q G V S I T R E L L W W W G M R Q A 69
250 260 270 280 290 300
241 ACC GTC CAG CAA CTT GTG GAC CTC CTG TGC CGC CTG GAG CTC TAC CGG GCT GCC CAG ATC 300
70 T V Q Q L V D L L C R L E L Y R A A Q I 89
310 320 330 340 350 360
301 ATC CTG AAC TGG AAA CCG GCT CCT GAA ATC AGG TGT CCC ATT CCA GCC TTC CCT GAC TCT 360
90 I L N W K P A P E I R C P I P A F P D S 109
370 380 390 400 410 420
361 GTG AAG CCA GAA AAG CCT TTG GCA GCT TCT GTA AGA AAG GCT GAG GAT GAA CAG GAA GAG 420
110 V K P E K P L A A S V R K A E D E Q E E 129
430 440 450 460 470 480
421 GGG CAG CCT GTG AGG ATG GCC ACC TTT CCA GGC CCA GGG TCC TCT CCA GCC AGA GCC CAC 480
130 G Q P V R M A T F P G P G S S P A R A H 149
490 500 510 520 530 540
481 CAG CCG GCC TTT CTC CAG CCT CCT GAA GAA GAT GCC CCT CAT TCC TTG AGA AGC GAC CTC 540
150 Q P A F L Q P P E E D A P H S L R S D L 169
550 560 570 580 590 600
541 CCC ACT TCG TCT GAT TCA AAG GAC TTC AGC ACC TCC ATT CCT AAG CAG GAA AAA CTT TTG 600
170 P T S S D S K D F S T S I P K Q E K L L 189
610 620 630 640 650 660
601 AGC TTG GCT GGA GAC AGC CTT TTC TGG AGT GAG GCA GAC GTG GTC CAG GCA ACC GAT GAC 660
190 S L A G D S L F W S E A D V V Q A T D D 209

FIG. 1A

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                670         680         690         700         710         720
661 TTC AAT CAA AAC CGC AAA ATC AGC CAG GGG ACC TTT GCT GAC GTC TAC AGA GGG CAC AGG  720
210  F   N   Q   N   R   K   I   S   Q   G   T   F   A   D   V   Y   R   G   H   R  229

                730         740         750         760         770         780
721 CAC GGG AAG CCA TTC GTC TTC AAG AAG CTC AGA GAG ACA GCC TGT TCA AGT CCA GGA TCA  780
230  H   G   K   P   F   V   F   K   K   L   R   E   T   A   C   S   S   P   G   S  249

                790         800         810         820         830         840
781 ATC GAA AGA TTC TTC CAG GCA GAG TTG CAG ATT TGT CTT AGA TGC TGC CAC CCC AAT GTC  840
250  I   E   R   F   F   Q   A   E   L   Q   I   C   L   R   C   C   H   P   N   V  269

                850         860         870         880         890         900
841 TTA CCT GTG CTG GGC TTC TGT GCT GCA AGA CAG TTT CAC AGC TTC ATC TAC CCC TAC ATG  900
270  L   P   V   L   G   F   C   A   A   R   Q   F   H   S   F   I   Y   P   Y   M  289

                910         920         930         940         950         960
901 GCA AAT GGT TCC CTA CAG GAC AGA CTG CAG GGT CAG GGT GGC TCG GAA CCC CTC CCC TGG  960
290  A   N   G   S   L   Q   D   R   L   Q   G   Q   G   G   S   E   P   L   P   W  309

                970         980         990        1000        1010        1020
961 CCC CAG CGT GTC AGC ATC TGC TCA GGG CTG CTC TGT GCC GTC GAG TAC CTG CAT GGT CTG 1020
310  P   Q   R   V   S   I   C   S   G   L   L   C   A   V   E   Y   L   H   G   L  329

               1030        1040        1050        1060        1070        1080
1021 GAG ATC ATC CAC AGC AAC GTC AAG AGC TCT AAT GTC TTG CTG GAC CAA AAT CTC ACC CCC 1080
330  E   I   I   H   S   N   V   K   S   S   N   V   L   L   D   Q   N   L   T   P  349

               1090        1100        1110        1120        1130        1140
1081 AAA CTT GCT CAC CCA ATG GCT CAT CTG TGT CCT GTC AAC AAA AGG TCA AAA TAC ACC ATG 1140
350  K   L   A   H   P   M   A   H   L   C   P   V   N   K   R   S   K   Y   T   M  369

               1150        1160        1170        1180        1190        1200
1141 ATG AAG ACT CAC CTG CTC CGG ACG TCA GCC GCG TAT CTG CCA GAG GAT TTC ATC CGG GTG 1200
370  M   K   T   H   L   L   R   T   S   A   A   Y   L   P   E   D   F   I   R   V  389

               1210        1220        1230        1240        1250        1260
1201 GGG CAG CTG ACA AAG CGA GTG GAC ATC TTC AGC TGT GGA ATA GTG TTG GCC GAG GTC CTC 1260
390  G   Q   L   T   K   R   V   D   I   F   S   C   G   I   V   L   A   E   V   L  409

               1270        1280        1290        1300        1310        1320
1261 ACG GGC ATC CCT GCA ATG GAT AAC AAC CGA AGC CCG GTT TAC CTG AAG GAC TTA CTC CTC 1320
410  T   G   I   P   A   M   D   N   N   R   S   P   V   Y   L   K   D   L   L   L  429
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FIG. 1B

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                1330        1340        1350        1360        1370        1380
1321 AGT GAA ATT CCA AGC AGC ACC GCC TCG CTC TGC TCC AGG AAG ACG GGC GTG GAG AAC GTG 1380
 430  S   E   I   P   S   S   T   A   S   L   C   S   R   K   T   G   V   E   N   V  449

                1390        1400        1410        1420        1430        1440
1381 ATG GCA AAG GAG ATC TGC CAG AAG TAC CTG GAG AAG GGC GCA GGG AGG CTT CCG GAG GAC 1440
 450  M   A   K   E   I   C   Q   K   Y   L   E   K   G   A   G   R   L   P   E   D  469

                1450        1460        1470        1480        1490        1500
1441 TGC GCC GAG GCC CTG GCC ACG GCT GCC TGC CTG TGC CTG CGG AGG CGT AAC ACC AGC CTG 1500
 470  C   A   E   A   L   A   T   A   A   C   L   C   L   R   R   R   N   T   S   L  489

                1510        1520        1530        1540        1550        1560
1501 CAG GAG GTG TGT GGC TCT GTG GCT GCT GTG GAA GAG CGG CTC CGA GGT CGG GAG ACG TTG 1560
 490  Q   E   V   C   G   S   V   A   A   V   E   E   R   L   R   G   R   E   T   L  509

                1570        1580        1590        1600        1610        1620
1561 CTC CCT TGG AGT GGG CTT TCT GAG GGT ACA GGC TCT TCT TCC AAC ACC CCA GAG GAA ACA 1620
 510  L   P   W   S   G   L   S   E   G   T   G   S   S   S   N   T   P   E   E   T  529

                1630        1640        1650        1660        1670        1680
1621 GAC GAC GTT GAC AAT TCC AGC CTT GAT GCC TCC TCC TCC ATG AGT GTG GCA CCC TGG GCA 1680
 530  D   D   V   D   N   S   S   L   D   A   S   S   S   M   S   V   A   P   W   A  549

                1690        1700        1710        1720        1730        1740
1681 GGG GCT GCC ACC CCA CTT CTC CCC ACA GAG AAT GGG GAA GGA AGG CTG CGG GTC ATC GTG 1740
 550  G   A   A   T   P   L   L   P   T   E   N   G   E   G   R   L   R   V   I   V  569

                1750        1760        1770        1780        1790        1800
1741 GGA AGG GAG GCT GAC TCC TCC TCT GAG GCC TGT GTT GGC CTG GAG CCT CCC CAG GAT GTT 1800
 570  G   R   E   A   D   S   S   S   E   A   C   V   G   L   E   P   P   Q   D   V  589

1801 ACA TAA 1806
 590  T   *  590
```

FIG. 1C

```
                10          20          30          40          50          60
 1 GCA GGC GCG CCG GAG CCG GCC CCG TAG CGT GCC ATG GCC TGC TAC ATC TAC CAG CTG CCC  60
 1                                                 M   A   C   Y   I   Y   Q   L   P   9

                70          80          90          100         110         120
61 TCC TGG GTG CTG GAC GAC CTG TGC CGC AAC ATG GAC GCG CTC AGC GAG TGG GAC TGG ATG 120
10  S   W   V   L   D   D   L   C   R   N   M   D   A   L   S   E   W   D   W   M  29

               130         140         150         160         170         180
121 GAG TTC GCC TCC TAC GTG ATC ACA GAC CTG ACC CAG CTG CGG AAG ATC AAG TCC ATG GAG 180
30  E   F   A   S   Y   V   I   T   D   L   T   Q   L   R   K   I   K   S   M   E  49

               190         200         210         220         230         240
181 CGG GTG CAG GGT GTG AGC ATC ACG CGG GAG CTG CTG TGG TGG TGG GGC ATG CGG CAG GCC 240
50  R   V   Q   G   V   S   I   T   R   E   L   L   W   W   W   G   M   R   Q   A  69

               250         260         270         280         290         300
241 ACC GTC CAG CAA CTT GTG GAC CTC CTG TGC CGC CTG GAG CTC TAC CGG GCT GCC CAG ATC 300
70  T   V   Q   Q   L   V   D   L   L   C   R   L   E   L   Y   R   A   A   Q   I  89

               310         320         330         340         350         360
301 ATC CTG AAC TGG AAA CCG GCT CCT GAA ATC AGG TGT CCC ATT CCA GCC TTC CCT GAC TCT 360
90  I   L   N   W   K   P   A   P   E   I   R   C   P   I   P   A   F   P   D   S  109

               370         380         390         400         410         420
361 GTG AAG CCA GAA AAG CCT TTG GCA GCT TCT GTA AGA AAG GCT GAG GAT GAA CAG GAA GAG 420
110 V   K   P   E   K   P   L   A   A   S   V   R   K   A   E   D   E   Q   E   E  129

               430         440         450         460         470         480
421 GGG CAG CCT GTG AGG ATG GCC ACC TTT CCA GGC CCA GGG TCC TCT CCA GCC AGA GCC CAC 480
130 G   Q   P   V   R   M   A   T   F   P   G   P   G   S   S   P   A   R   A   H  149

               490         500         510         520         530         540
481 CAG CCG GCC TTT CTC CAG CCT CCT GAA GAA GAT GCC CCT CAT TCC TTG AGA AGC GAC CTC 540
150 Q   P   A   F   L   Q   P   P   E   E   D   A   P   H   S   L   R   S   D   L  169

               550         560         570         580         590         600
541 CCC ACT TCG TCT GAT TCA AAG GAC TTC AGC ACC TCC ATT CCT AAG CAG GAA AAA CTT TTG 600
170 P   T   S   S   D   S   K   D   F   S   T   S   I   P   K   Q   E   K   L   L  189

               610         620         630         640         650         660
601 AGC TTG GCT GGA GAC AGC CTT TTC TGG AGT GAG GCA GAC GTG GTC CAG GCA ACC GAT GAC 660
190 S   L   A   G   D   S   L   F   W   S   E   A   D   V   V   Q   A   T   D   D  209

               670         680         690         700         710         720
661 TTC AAT CAA AAC CGC AAA ATC AGC CAG GGG ACC TTT GCT GAC GTC TAC AGA GGG CAC AGG 720
210 F   N   Q   N   R   K   I   S   Q   G   T   F   A   D   V   Y   R   G   H   R  229

               730         740         750         760         770         780
721 CAC GGG AAG CCA TTC GTC TTC AAG AAG CTC AGA GAG ACA GCC TGT TCA AGT CCA GGA TCA 780
230 H   G   K   P   F   V   F   K   K   L   R   E   T   A   C   S   S   P   G   S  249

               790         800         810         820         830         840
781 ATC GAA AGA TTC TTC CAG GCA GAG TTG CAG ATT TGT CTT AGA TGC TGC CAC CCC AAT GTC 840
250 I   E   R   F   F   Q   A   E   L   Q   I   C   L   R   C   C   H   P   N   V  269
```

FIG. 2A

```
                850         860         870         880         890         900
841 TTA CCT GTG CTG GGC TTC TGT GCT GCA AGA CAG TTT CAC AGC TTC ATC TAC CCC TAC ATG  900
270 L   P   V   L   G   F   C   A   A   R   Q   F   H   S   F   I   Y   P   Y   M  289
                910         920         930         940         950         960
901 GCA AAT GGT TCC CTA CAG GAC AGA CTG CAG GGT CAG GGT GGC TCG GAC CCC CTC CCC TGG  960
290 A   N   G   S   L   Q   D   R   L   Q   G   Q   G   G   S   D   P   L   P   W  309
                970         980         990        1000        1010        1020
961 CCC CAG CGT GTC AGC ATC TGC TCA GGG CTG CTC TGT GCC GTC GAG TAC CTG CAT GGT CTG 1020
310 P   Q   R   V   S   I   C   S   G   L   L   C   A   V   E   Y   L   H   G   L  329
               1030        1040        1050        1060        1070        1080
1021 GAG ATC ATC CAC AGC AAC GTC AAG AGC TCT AAT GTC TTG CTG GAC CAA AAT CTC ACC CCC 1080
 330 E   I   I   H   S   N   V   K   S   S   N   V   L   L   D   Q   N   L   T   P  349
               1090        1100        1110        1120        1130        1140
1081 AAA CTT GCT CAC CCA ATG GCT CAT CTG TGT CCT GTC AAC AAA AGG TCA AAA TAC ACC ATG 1140
 350 K   L   A   H   P   M   A   H   L   C   P   V   N   K   R   S   K   Y   T   M  369
               1150        1160        1170        1180        1190        1200
1141 ATG AAG ACT CAC CTG CTC CGG ACG TCA GCC GCG TAT CTG CCA GAG GAT TTC ATC CGG GTG 1200
 370 M   K   T   H   L   L   R   T   S   A   A   Y   L   P   E   D   F   I   R   V  389
               1210        1220        1230        1240        1250        1260
1201 GGG CAG GTG ACA AAG CGA GTG GAC ATC TTC AGC TGT GGA ATA GTG TTG GCC GAG GTC CTC 1260
 390 G   Q   V   T   K   R   V   D   I   F   S   C   G   I   V   L   A   E   V   L  409
               1270        1280        1290        1300        1310        1320
1261 ACG GGC ATC CCT GCA ATG GAT AAC AAC CGA AGC CCG GTT TAC CTG AAG GAC TTA CTC CTC 1320
 410 T   G   I   P   A   M   D   N   N   R   S   P   V   Y   L   K   D   L   L   L  429
               1330        1340        1350        1360        1370        1380
1321 AGT GAA ATT CCA AGC AGC ACC GCC TCG CTC TGC TCC AGG AAG ACG GGC GTG GAG AAC GTG 1380
 430 S   E   I   P   S   S   T   A   S   L   C   S   R   K   T   G   V   E   N   V  449
               1390        1400        1410        1420        1430        1440
1381 ATG GCA AAG GAG ATC TGC CAG AAG TAC CTG GAG AAG GGC GCA GGG AGG CTT CCG GAG GAC 1440
 450 M   A   K   E   I   C   Q   K   Y   L   E   K   G   A   G   R   L   P   E   D  469
               1450        1460        1470        1480        1490        1500
1441 TGC GCC GAG GCC CTG GCC ACG GCT GCC TGC CTG TGC CTG CGG AGG CGT AAC ACC AGC CTG 1500
 470 C   A   E   A   L   A   T   A   A   C   L   C   L   R   R   R   N   T   S   L  489
               1510        1520        1530        1540        1550        1560
1501 CAG GAG GTG TGT GGC TCT GTG GCT GCT GTG GAA GAG CGG CTC CGA GGT CGG GAG ACG TTG 1560
 490 Q   E   V   C   G   S   V   A   A   V   E   E   R   L   R   G   R   E   T   L  509
               1570        1580        1590        1600        1610        1620
1561 CTC CCT TGG AGT GGG CTT TCT GAG GGT ACA GGC TCT TCT TCC AAC ACC CCA GAG GAA ACA 1620
 510 L   P   W   S   G   L   S   E   G   T   G   S   S   S   N   T   P   E   E   T  529
               1630        1640        1650        1660        1670        1680
1621 GAC GAC GTT GAC AAT TCC AGC CTT GAT GCC TCC TCC TCC ATG AGT GTG GCA CCC TGG GCA 1680
 530 D   D   V   D   N   S   S   L   D   A   S   S   S   M   S   V   A   P   W   A  549
```

FIG. 2B

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                1690        1700        1710        1720        1730        1740
1681 GGG GCT GCC ACC CCA CTT CTC CCC ACA GAG AAT GGG GAA GGA AGG CTG CGG GTC ATC GTG 1740
 550  G   A   A   T   P   L   L   P   T   E   N   G   E   G   R   L   R   V   I   V  569
                1750        1760        1770        1780        1790        1800
1741 GGA AGG GAG GCT GAC TCC TCC TCT GAG GCC TGT GTT GGC CTG GAG CCT CCC CAG GAT GTT 1800
 570  G   R   E   A   D   S   S   S   E   A   C   V   G   L   E   P   P   Q   D   V  589
                1810        1820        1830        1840        1850        1860
1801 ACA GAA ACT TCG TGG CAA ATT GAG ATC AAT GAG GCC AAA AGG AAA CTG ATG GAG AAT ATT 1860
 590  T   E   T   S   W   Q   I   E   I   N   E   A   K   R   K   L   M   E   N   I  609
                1870        1880        1890        1900        1910        1920
1861 CTG CTC TAC AAA GAG GAA AAA GTG GAC AGC ATT GAG CTC TTT GGC CCC TGA TGA CCG GAA 1920
 610  L   L   Y   K   E   E   K   V   D   S   I   E   L   F   G   P   *              625
                1930        1940        1950        1960        1970        1980
1921 CAC AGC TGA GGA CCC TTG TCC TCA GTT GGA AAG ATG AGC ATC AGA TCA AGA AAA AGG TCT 1980
                1990        2000        2010        2020        2030        2040
1981 GAG GCA GAA TCC AAG ATC TGC CAG GAA ACA CAC AAC AAA ACA TCT GCT GTC CTG GGT GGG 2040
                2050        2060        2070        2080        2090        3000
2041 AGG GAA ACT TCA TTT CAC TGG AAT GAG TTG GGA GAG AAA GGC CCT CAG CTT TTA GAG ACA 2100
                2110        2120        2130        2140        2150        2160
2101 CAA AAA TCC ATG AAG TCT CTT CCT TTC TGG GCT TTG TTA GTC AGA GCA GGG GAT CAG AGG 2160
                2170        2180        2190        2200        2210        2220
2161 AGA CTG AAG CAG AAA CCC TGC ACA CGG GCC CAG GAT GTG GCT GAT TTT GTG GTT CCG GGG 2220
                2230        2240        2250        2260        2270        2280
2221 AGT ATG TGA TGA TAA TCA CCC CCA GCA GAT TCC ATT ACC TCA GCA GCT CTT GTT CCC CCG 2280
                2290        2300        2310        2320        2330        2340
2281 CCA CTG GCA GTT CTG CAA TGC CAT AGC ATT TTC CAG AGC TAA GAT CTC TGG GTT GTA TTT 2340
                2350        2360        2370        2380        2390        2400
2341 GCT GAC AGC CTG CAA GCT TGC ATG CTC TGA AAG ATT TTT TTA GTT TTT AAT TTT TTT GTA 2400
                2410        2420        2430        2440        2450        2460
2401 AAA ATG GGG TCT CGC TTT GTT GGC GCA ATC CTC CCA CCT CAG ACT CCC AAA GTG CTG GAA 2460
                2470        2480        2490        2500        2510        2520
2461 TTA CAT TGG GAA CCA CTG TGC CTG GCC TGG AAA ACT TCC AAC TTG TGT TCT CAG TGC AGT 2520
                2530        2540        2550        2560        2570        2580
2521 TCT GAC TCA CCT CTC TGG GCC TCA GGT TCT ACA AAT GCC AGA CAC CTA GCG AAG AGC TCT 2580
                2590        2600        2610        2620        2630        2640
2581 GCA GGC TTT CCA CTG CCT GTA TTG GAA ATC TTG CAA TTC ACA TAA TTA TTC AGT CAC TGC 2640
                2650        2660        2670        2680        2690        2700
2641 CTG GTA CCT TTA TCT TCC CAT CCC ATT AAT GTT AGT GTT TTT TAA TGG AGC TTT TAT TCT 2700
                2710        2720        2730        2740        2750        2760
2701 GAG AAT ATG TGT TCG TCT GTT TGT TTG TTT TTT GAG ACA GAG TCT CAC TTT GTC ACC CAG 2760
                2770        2780        2790        2800        2810        2820
2761 GCT GGA GTG CAG TGG CAC GAT CTC AGC TCA CTG CAA GCT GTG CCT CTC AGG TTT CAA GTG 2820
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FIG. 2C

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                2830        2840        2850        2860        2870        2880
2821 ATT CTC CTG CCT CAG CCT CCT GAG TAG ATG GGA CTG TAG GCA CCT GCC ACT ATG CCT GGC 2880
                2890        2900        2910        2920        2930        2940
2881 TAA TTT TTG TGT TTT TAG TAG AGA CAG GGT TTC ACC ATA TTG GCC AGG CTG GTC TCG AAC 2940
                2950        2960        2970        2980        2990        3000
2941 TAC TGA CCT CGT GAT CTG CCC GCC TTG GCC TAT CAA AGT GTT GGG ATT ACA GGC TTG AGC 3000
                3010        3020        3030        3040        3050        3060
3001 CAC CGC ACC CGG CCG AGA ATA TGT GTT GTT ATT TAT GAC TGG ATT ATG AAG AAT CAG GAG 3060
                3070        3080        3090        3100        3110        3120
3061 AAT GCA TTT CAT GTC TGA TTC TGC TGC TAA TTA AGT CAA TCA TTT AAT TTT TGG GAC CTC 3120
                3130        3140        3150        3160        3170        3180
3121 AGT TTC TTT GTA AGT AAA ATA ACA CCT GCT TGT TCT TCA TCC CTG GGC TGT TGG GAG GAA 3180
                3190        3200        3210        3220        3230        3240
3181 CAG ATG AGA CAG TGG CTA TAG AAG CAC TTG GAA AAT GCA CTT GTC CTG TTT TGT AAA ATA 3240
                3250        3260        3270        3280        3290        3300
3241 AAA AGG TAT TAA ATG TGT ATT TCT GCC ATG TAC CTA ATG ATT ATT CAG TGC GTA TAT ATC 3300
                3310        3320        3330        3340        3350        3360
3301 TGA AAA GTC ATG TTG CAA ATC TTT CTG TGA AAC AGA TGC TAT TTT AAA TTC ACT GGG AGA 3360
                3370        3380        3390        3400        3410        3420
3361 AAT ATC CTA TTT AAA GTA ATC TAT AGT AAT TTC TTT TTA TAT AAT AAA AAT ATA TTT GTA 3420
                3430        3440        3450
3421 AAG TCG AAA AAA AAA AAA AAA AAA AAA AAA AAA AAA AAA    3459
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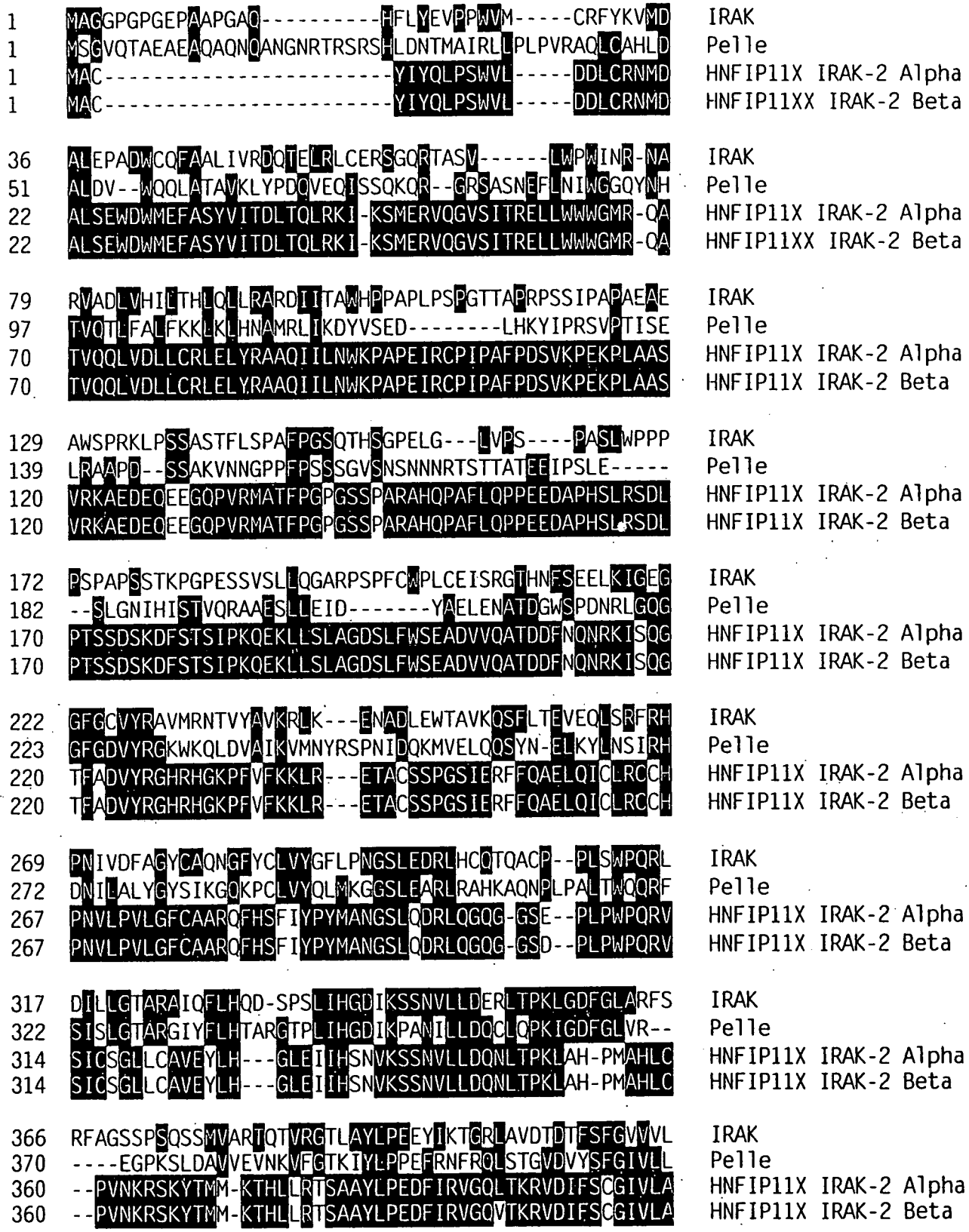
FIG. 2D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79 RVADLVHILTHLQLLRARDIITAWHPPAPLPSPGTTAPRPSSIPAPAEAE IRAK
97 TVQTLFALFKKLKLHNAMRLIKDYVSED--------LHKYIPRSVPTISE Pelle
70 TVQQLVDLLCRLELYRAAQIILNWKPAPEIRCPIPAFPDSVKPEKPLAAS HNFIP11X IRAK-2 Alpha
70 TVQQLVDLLCRLELYRAAQIILNWKPAPEIRCPIPAFPDSVKPEKPLAAS HNFIP11X IRAK-2 Beta
129 AWSPRKLPSSASTFLSPAFPGSQTHSGPELG---LVPS----PASLWPPP IRAK
139 LRAAPD--SSAKVNNGPPFPSSSGVSNSNNNRTSTTATEEIPSLE----- Pelle
120 VRKAEDEQEEGQPVRMATFPGPGSSPARAHQPAFLQPPEEDAPHSLRSDL HNFIP11X IRAK-2 Alpha
120 VRKAEDEQEEGQPVRMATFPGPGSSPARAHQPAFLQPPEEDAPHSLRSDL HNFIP11X IRAK-2 Beta
172 PSPAPSSTKPGPESSVSLLQGARPSPFCWPLCEISRGTHNFSEELKIGEG IRAK
182 --SLGNIHISTVQRAAESLLEID-------YAELENATDGWSPDNRLGQG Pelle
170 PTSSDSKDFSTSIPKQEKLLSLAGDSLFWSEADVVQATDDFNQNRKISQG HNFIP11X IRAK-2 Alpha
170 PTSSDSKDFSTSIPKQEKLLSLAGDSLFWSEADVVQATDDFNQNRKISQG HNFIP11X IRAK-2 Beta
222 GFGCVYRAVMRNTVYAVKRLK---ENADLEWTAVKQSFLTEVEQLSRFRH IRAK
223 GFGDVYRGKWKQLDVAIKVMNYRSPNIDQKMVELQQSYN-ELKYLNSIRH Pelle
220 TFADVYRGHRHGKPFVFKKLR---ETACSSPGSIERFFQAELQICLRCCH HNFIP11X IRAK-2 Alpha
220 TFADVYRGHRHGKPFVFKKLR---ETACSSPGSIERFFQAELQICLRCCH HNFIP11X IRAK-2 Beta
269 PNIVDFAGYCAQNGFYCLVYGFLPNGSLEDRLHCQTQACP--PLSWPQRL IRAK
272 DNILALYGYSIKGQKPCLVYQLMKGGSLEARLRAHKAQNPLPALTWQQRF Pelle
267 PNVLPVLGFCAARQFHSFIYPYMANGSLQDRLQGQG-GSE--PLPWPQRV HNFIP11X IRAK-2 Alpha
267 PNVLPVLGFCAARQFHSFIYPYMANGSLQDRLQGQG-GSD--PLPWPQRV HNFIP11X IRAK-2 Beta
317 DILLGTARAIQFLHQD-SPSLIHGDIKSSNVLLDERLTPKLGDFGLARFS IRAK
322 SISLGTARGIYFLHTARGTPLIHGDIKPANILLDQCLQPKIGDFGLVR-- Pelle
314 SICSGLLCAVEYLH---GLEIIHSNVKSSNVLLDQNLTPKLAH-PMAHLC HNFIP11X IRAK-2 Alpha
314 SICSGLLCAVEYLH---GLEIIHSNVKSSNVLLDQNLTPKLAH-PMAHLC HNFIP11X IRAK-2 Beta
366 RFAGSSPSQSSMVARTQTVRGTLAYLPEEYIKTGRLAVDTDTFSFGVVVL IRAK
370 ----EGPKSLDAVVEVNKVFGTKIYLPPEFRNFRQLSTGVDVYSFGIVLL Pelle
360 --PVNKRSKYTMM-KTHLLRTSAAYLPEDFIRVGQLTKRVDIFSCGIVLA HNFIP11X IRAK-2 Alpha
360 --PVNKRSKYTMM-KTHLLRTSAAYLPEDFIRVGQVTKRVDIFSCGIVLA HNFIP11X IRAK-2 Beta

FIG.3A

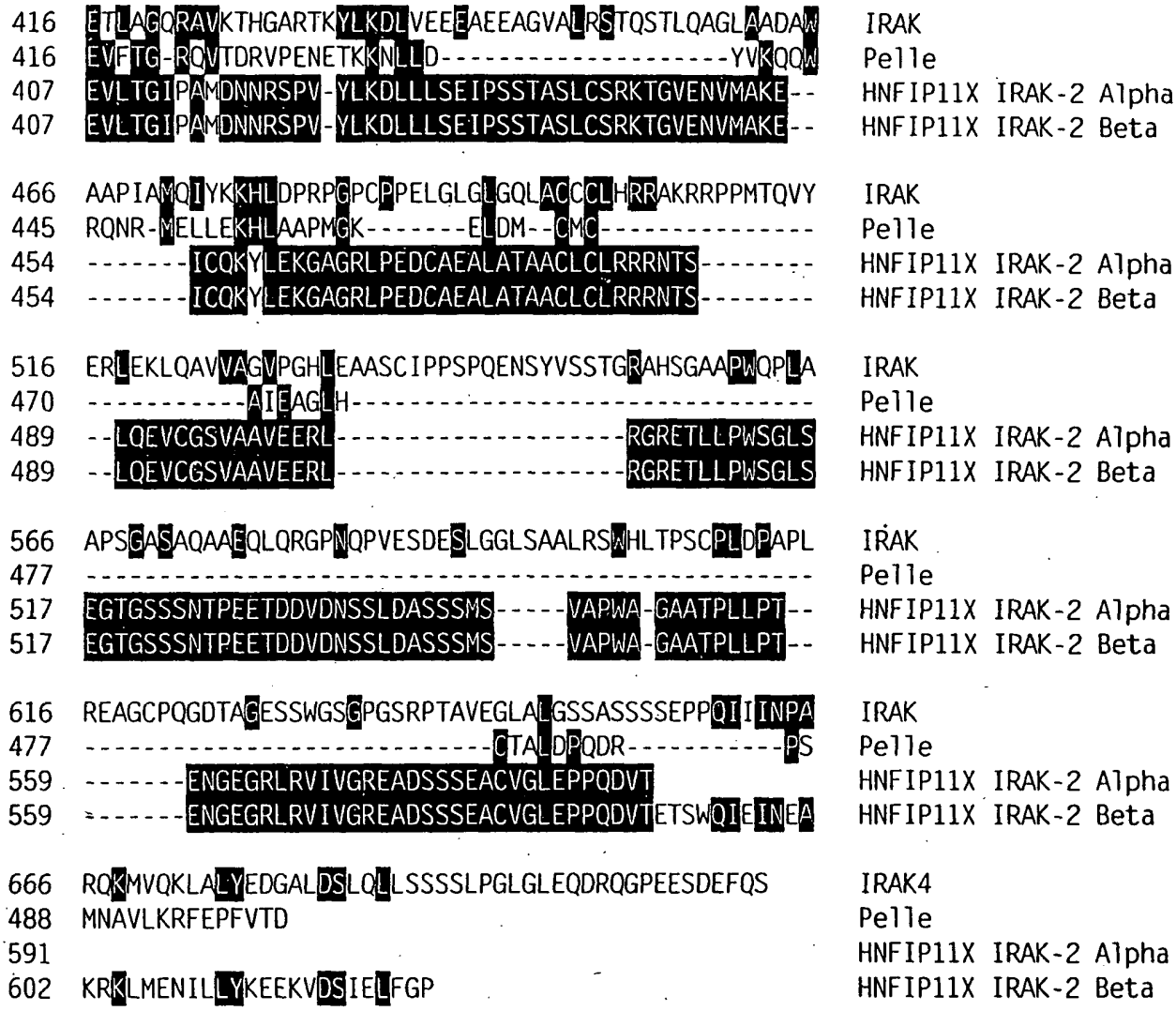
416 ETLAGQRAVKTHGARTKYLKDLVEEEAEEAGVALRSTQSTLQAGLAADAW IRAK
416 EVFTG-RQVTDRVPENETKKNLLD----------YVKQQW Pelle
407 EVLTGIPAMDNNRSPV-YLKDLLLSEIPSSTASLCSRKTGVENVMAKE-- HNFIP11X IRAK-2 Alpha
407 EVLTGIPAMDNNRSPV-YLKDLLLSEIPSSTASLCSRKTGVENVMAKE-- HNFIP11X IRAK-2 Beta
466 AAPIAMQIYKKHLDPRPGPCPPELGLGLGQLACCCLHRRAKRRPPMTQVY IRAK
445 RQNR-MELLEKHLAAPMGK-------ELDM--CMC---------- Pelle
454 -------ICQKYLEKGAGRLPEDCAEALATAACLCLRRRNTS-------- HNFIP11X IRAK-2 Alpha
454 -------ICQKYLEKGAGRLPEDCAEALATAACLCLRRRNTS-------- HNFIP11X IRAK-2 Beta
516 ERLEKLQAVVAGVPGHLEAASCIPPSPQENSYVSSTGRAHSGAAPWQPLA IRAK
470 ----------AIEAGLH---------- Pelle
489 --LQEVCGSVAAVEERL----------RGRETLLPWSGLS HNFIP11X IRAK-2 Alpha
489 --LQEVCGSVAAVEERL----------RGRETLLPWSGLS HNFIP11X IRAK-2 Beta
566 APSGASAQAAEQLQRGPNQPVESDESLGGLSAALRSWHLTPSCPLDPAPL IRAK
477 ---------- Pelle
517 EGTGSSSNTPEETDDVDNSSLDASSSMS-----VAPWA-GAATPLLPT-- HNFIP11X IRAK-2 Alpha
517 EGTGSSSNTPEETDDVDNSSLDASSSMS-----VAPWA-GAATPLLPT-- HNFIP11X IRAK-2 Beta
616 REAGCPQGDTAGESSWGSGPGSRPTAVEGLALGSSASSSSEPPQIIINPA IRAK
477 ----------CTALDPQDR----------PS Pelle
559 -------ENGEGRLRVIVGREADSSSEACVGLEPPQDVT HNFIP11X IRAK-2 Alpha
559 -------ENGEGRLRVIVGREADSSSEACVGLEPPQDVTETSWQIEINEA HNFIP11X IRAK-2 Beta
666 RQKMVQKLALYEDGALDSLQLLSSSSLPGLGLEQDRQGPEESDEFQS IRAK4
488 MNAVLKRFEPFVTD Pelle
591 HNFIP11X IRAK-2 Alpha
602 KRKLMENILLYKEEKVDSIELFGP HNFIP11X IRAK-2 Beta

FIG.3B

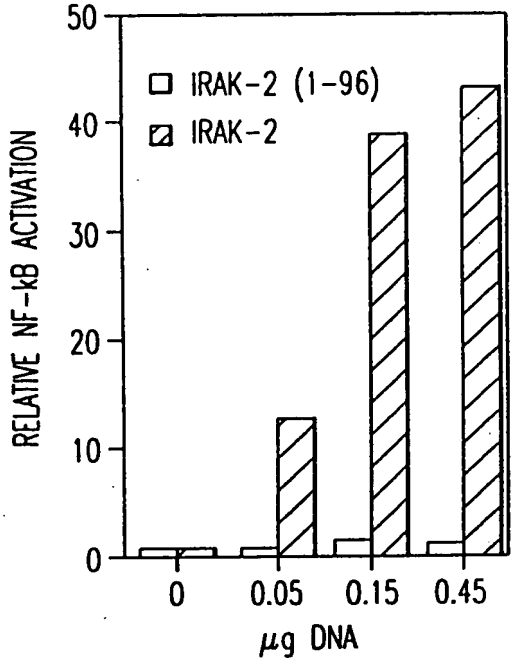
50
40
30
20
10
0
RELATIVE NF-kB ACTIVATION
IRAK-2 (1-96)
IRAK-2
0
0.05
0.15
0.45
μg DNA

FIG. 4A

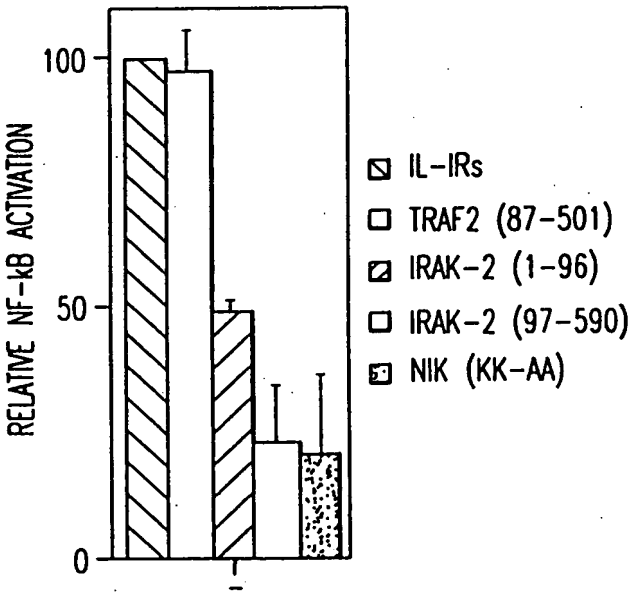
100
50
0
RELATIVE NF-kB ACTIVATION
IL-IRs
TRAF2 (87-501)
IRAK-2 (1-96)
IRAK-2 (97-590)
NIK (KK-AA)

FIG. 4B

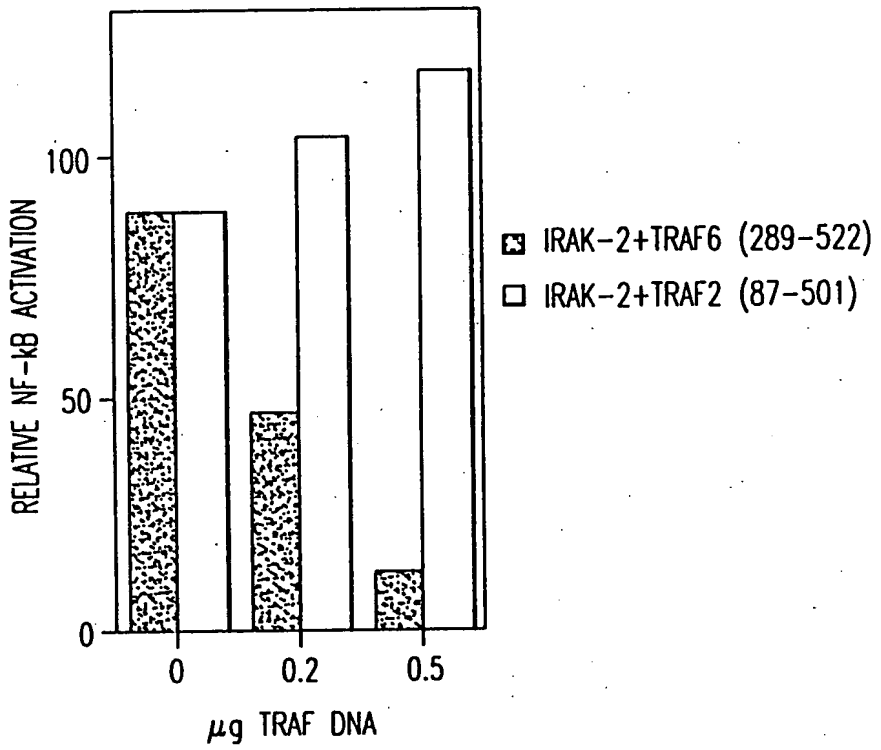
RELATIVE NF-kB ACTIVATION
100
50
0
0
0.2
0.5
μg TRAF DNA
IRAK-2+TRAF6 (289-522)
IRAK-2+TRAF2 (87-501)

FIG.5

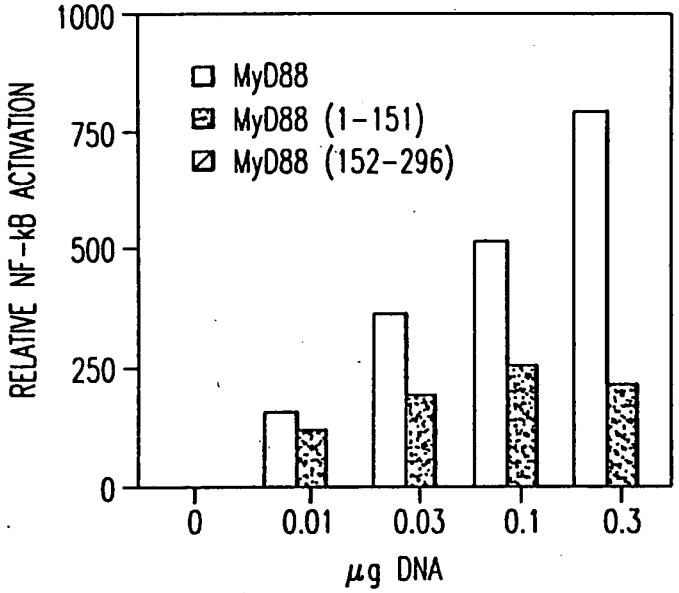
1000
750
500
250
0
RELATIVE NF-kB ACTIVATION
MyD88
MyD88 (1-151)
MyD88 (152-296)
0
0.01
0.03
0.1
0.3
μg DNA

FIG. 6A

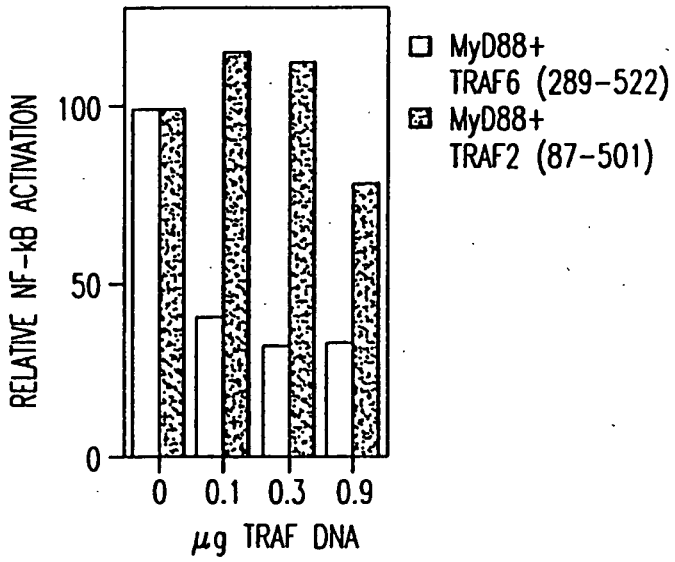
100
50
0
RELATIVE NF-kB ACTIVATION
MyD88+
TRAF6 (289-522)
MyD88+
TRAF2 (87-501)
0
0.1
0.3
0.9
μg TRAF DNA

FIG. 6B

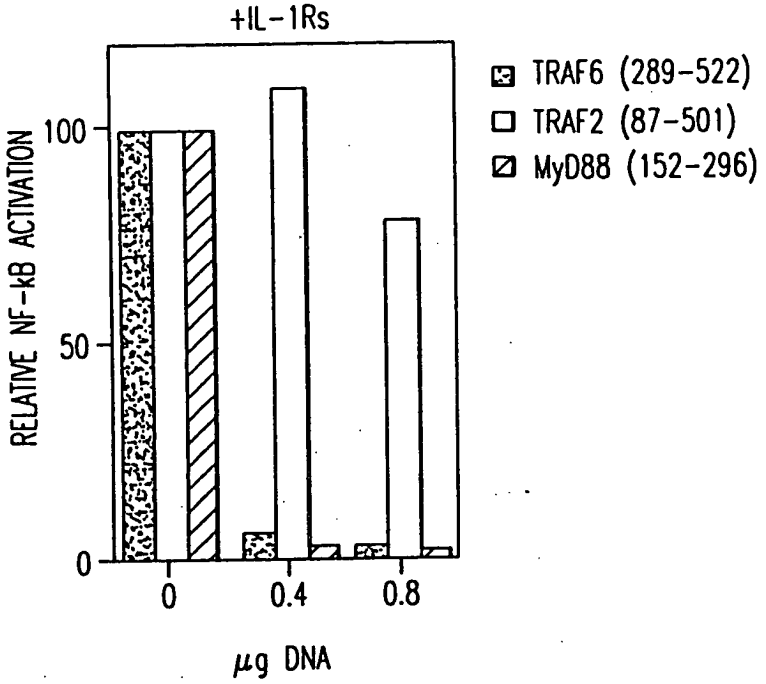
+IL-1Rs
RELATIVE NF-kB ACTIVATION
100
50
0
0
0.4
0.8
μg DNA
TRAF6 (289-522)
TRAF2 (87-501)
MyD88 (152-296)

FIG. 7A

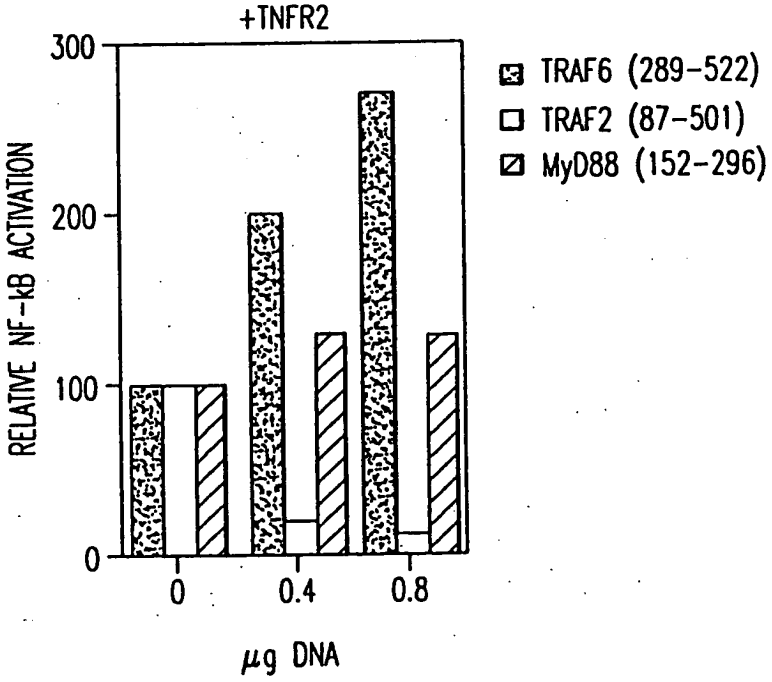
+TNFR2
RELATIVE NF-kB ACTIVATION
300
200
100
0
0
0.4
0.8
μg DNA
TRAF6 (289-522)
TRAF2 (87-501)
MyD88 (152-296)

FIG. 7B

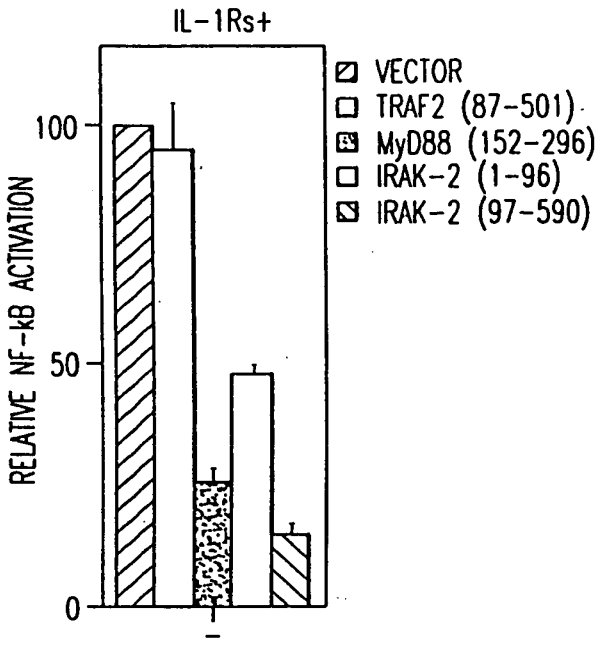

FIG. 8A

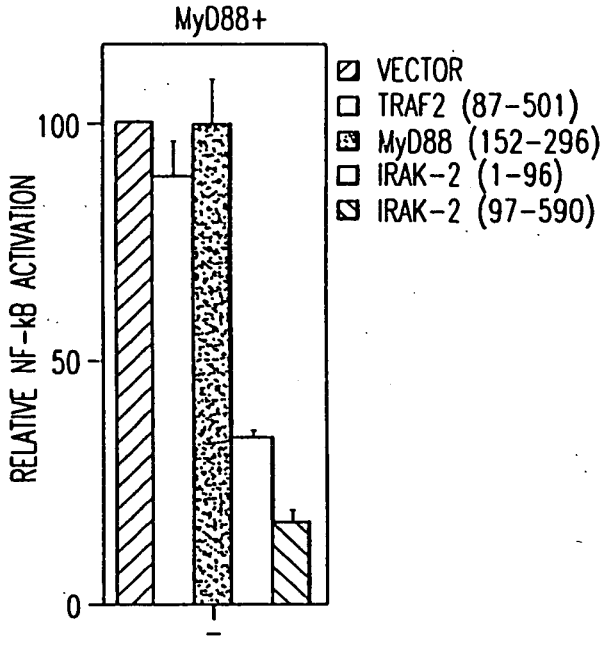

FIG. 8B

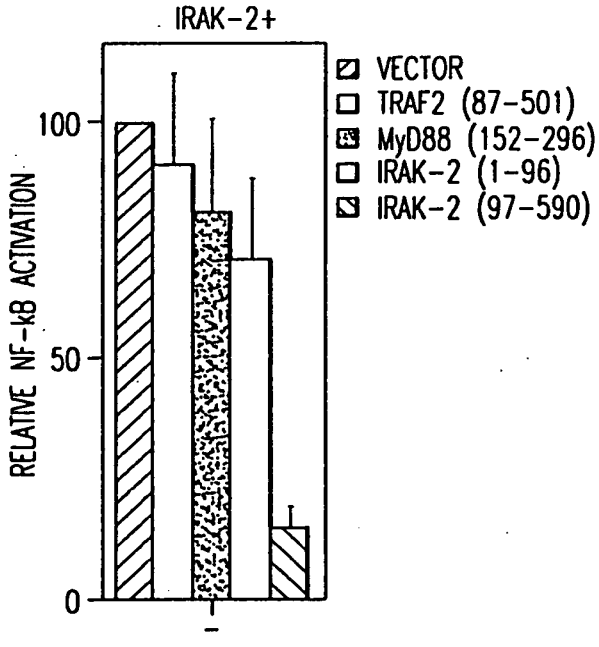

FIG. 8C

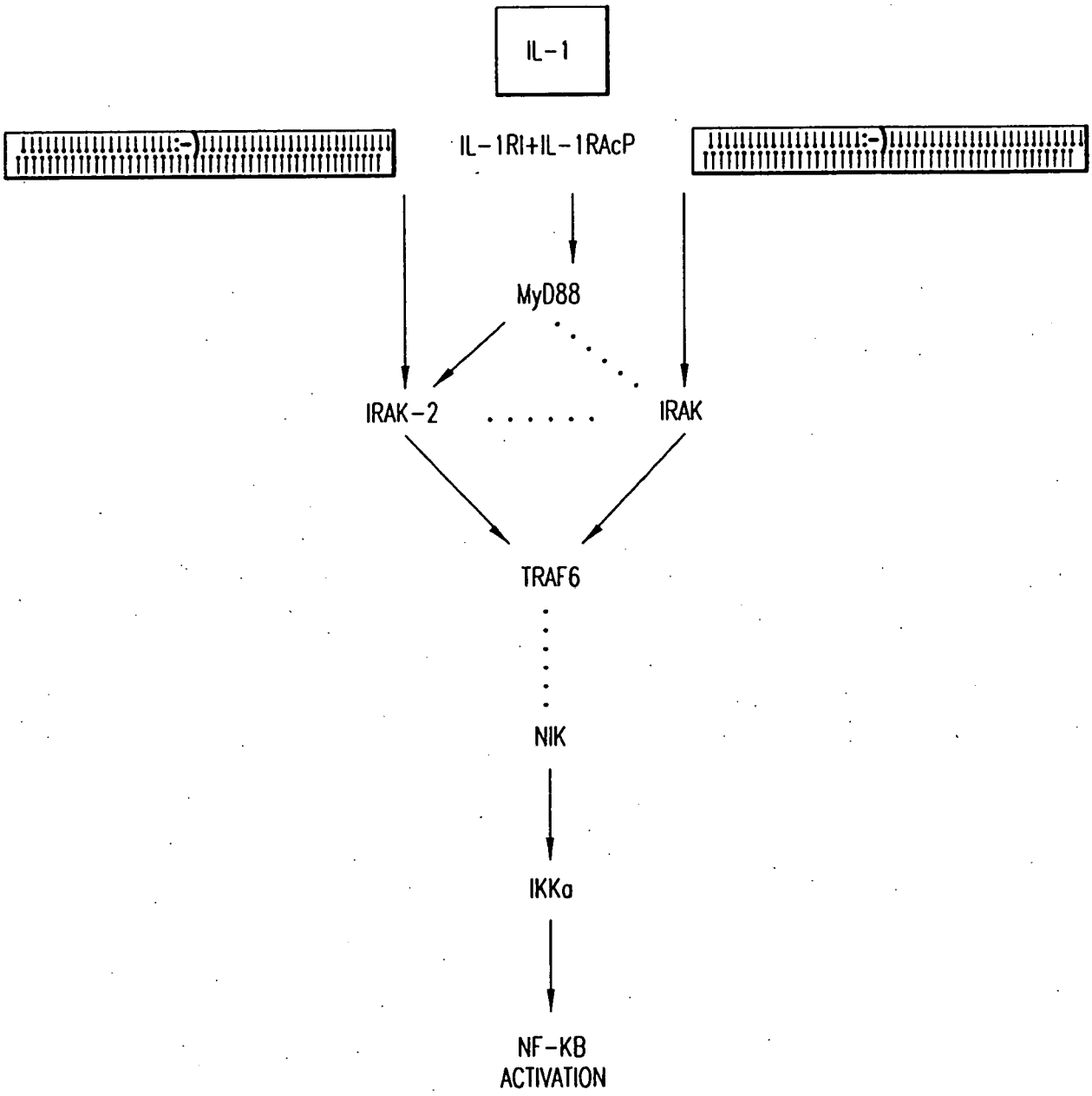
IL-1
IL-1RI+IL-1RAcP
MyD88
IRAK-2
IRAK
TRAF6
NIK
IKKα
NF-KB
ACTIVATION

FIG.9

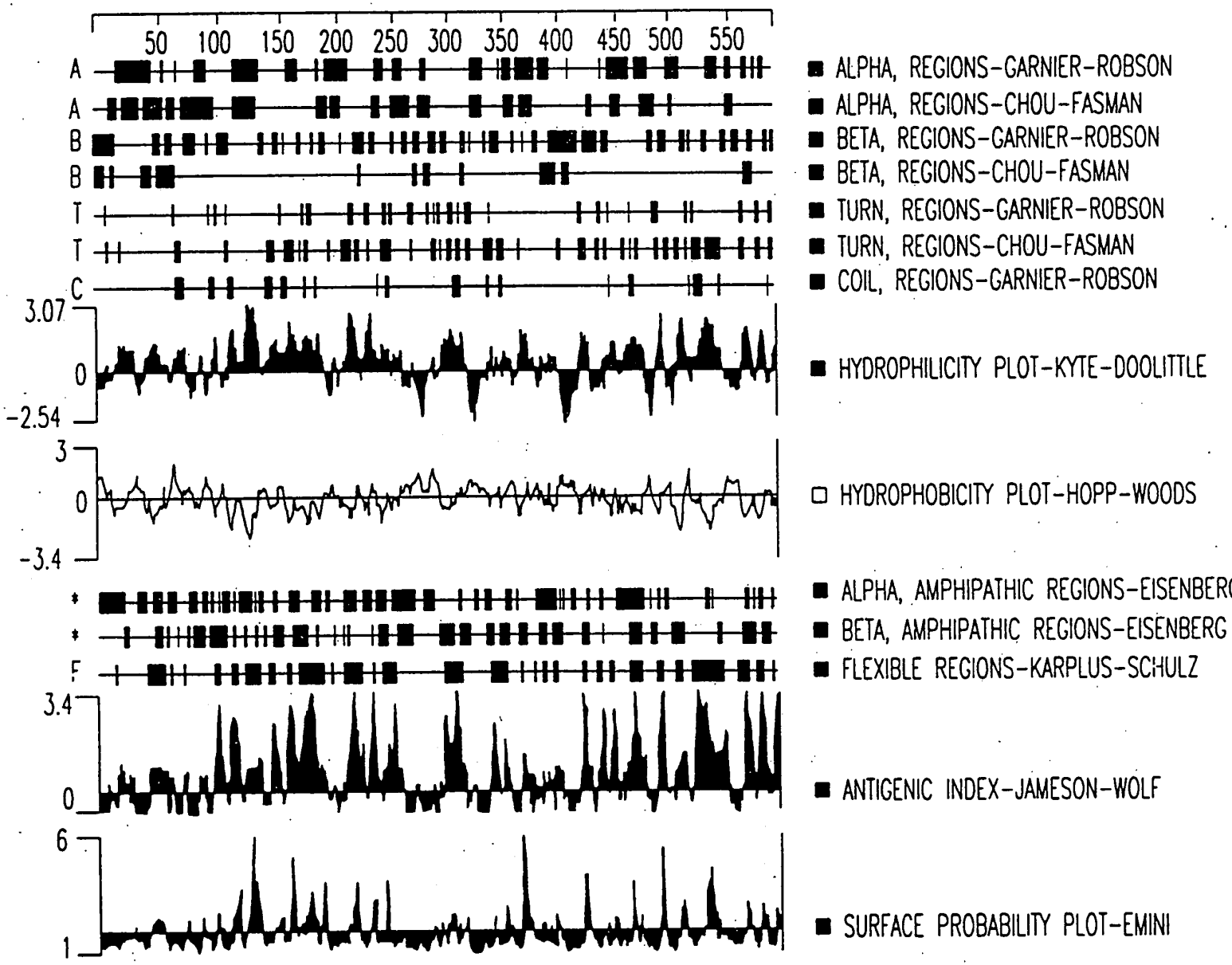
50 100 150 200 250 300 350 400 450 500 550
A
A
B
B
T
T
C
3.07
0
-2.54
3
0
-3.4
*
*
F
3.4
0
6
1
ALPHA, REGIONS-GARNIER-ROBSON
ALPHA, REGIONS-CHOU-FASMAN
BETA, REGIONS-GARNIER-ROBSON
BETA, REGIONS-CHOU-FASMAN
TURN, REGIONS-GARNIER-ROBSON
TURN, REGIONS-CHOU-FASMAN
COIL, REGIONS-GARNIER-ROBSON
HYDROPHILICITY PLOT-KYTE-DOOLITTLE
HYDROPHOBICITY PLOT-HOPP-WOODS
ALPHA, AMPHIPATHIC REGIONS-EISENBERG
BETA, AMPHIPATHIC REGIONS-EISENBERG
FLEXIBLE REGIONS-KARPLUS-SCHULZ
ANTIGENIC INDEX-JAMESON-WOLF
SURFACE PROBABILITY PLOT-EMINI

FIG.10

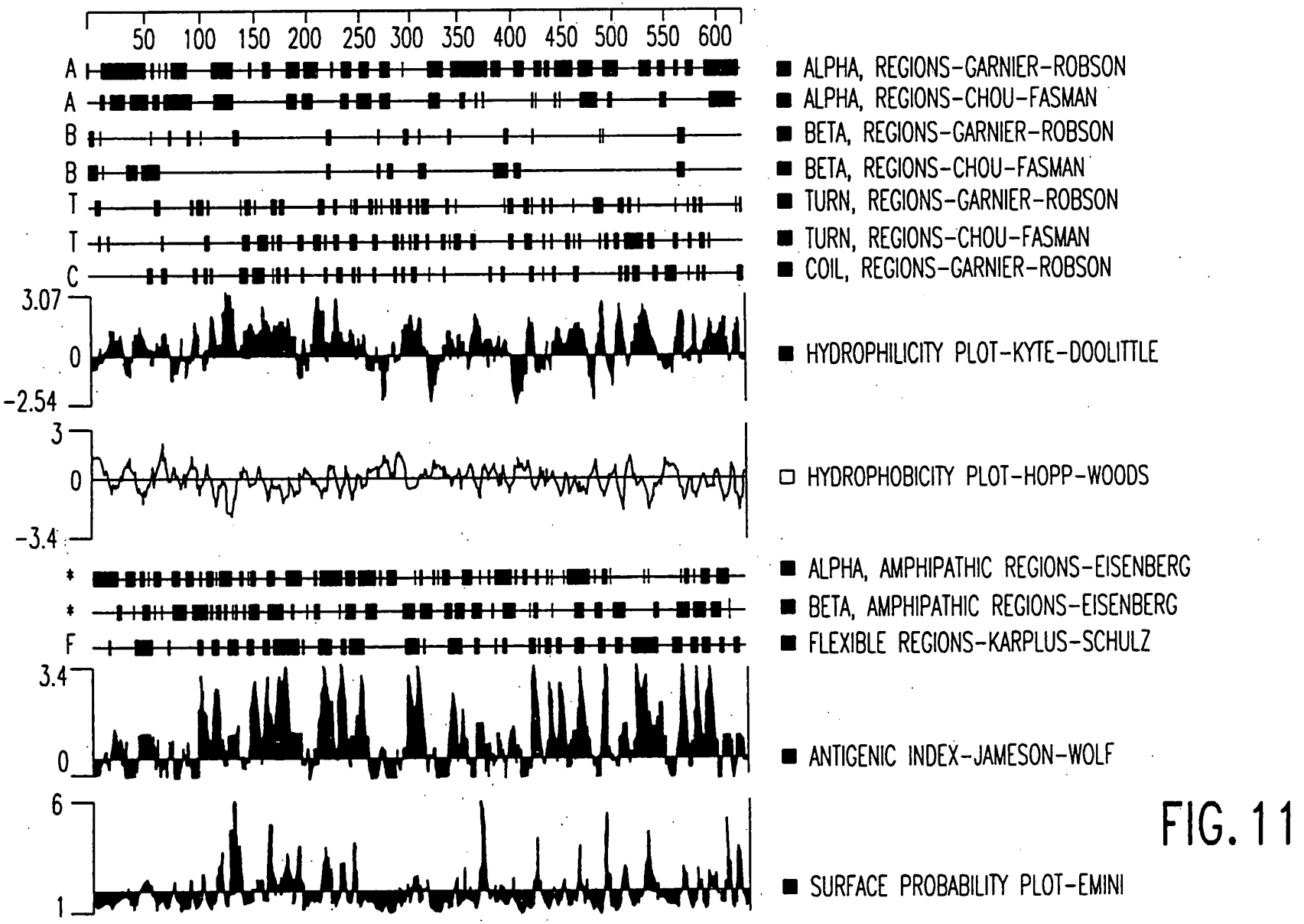
50 100 150 200 250 300 350 400 450 500 550 600
A
A
B
B
T
T
C
3.07
0
-2.54
3
0
-3.4
*
*
F
3.4
0
6
1
ALPHA, REGIONS-GARNIER-ROBSON
ALPHA, REGIONS-CHOU-FASMAN
BETA, REGIONS-GARNIER-ROBSON
BETA, REGIONS-CHOU-FASMAN
TURN, REGIONS-GARNIER-ROBSON
TURN, REGIONS-CHOU-FASMAN
COIL, REGIONS-GARNIER-ROBSON
HYDROPHILICITY PLOT-KYTE-DOOLITTLE
HYDROPHOBICITY PLOT-HOPP-WOODS
ALPHA, AMPHIPATHIC REGIONS-EISENBERG
BETA, AMPHIPATHIC REGIONS-EISENBERG
FLEXIBLE REGIONS-KARPLUS-SCHULZ
ANTIGENIC INDEX-JAMESON-WOLF
SURFACE PROBABILITY PLOT-EMINI

FIG. 11